

PLUG-IN MODULES

FOR LOW COST COUNTING/SCANNING

LOW COST systems for frequency counting or sequential operation of switches, readout lamps or other output devices is possible with a new Series of 4½" x 5" printed circuit modules that fit a standard Elco Varipak. Circuitry is completely solid-state with all switching contacts hermetically sealed.

Three series are available enabling module construction of a wide range of counters and frequency meters for your particular application.

DECADE COUNTER - DCM-10

Provides complementary output from a positive input pulse of 6 to 12 volts with 1 microsecond rise time and greater than 20 microsecond duration to sequence counter.

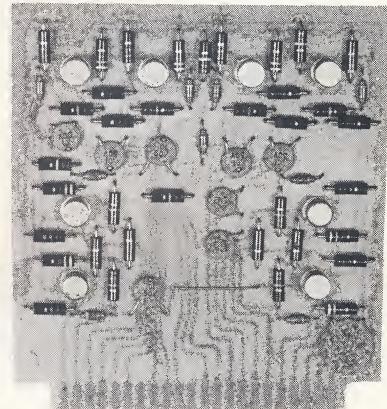
True Output: 0 to -0.3 volts 100ma from a negative supply

False Output: -8.0 volts give $\pm 1\text{ma}$ 330 ohm source impedance

Counting Rate: up to 1000cps

Transfer Time: 5 μsec max.

PRICE: \$30.00



TRANSLATION MODULE TDM-10

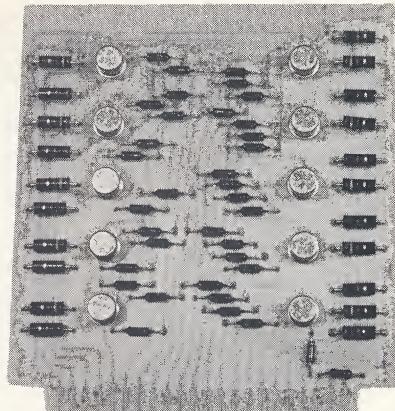
Provides decimal output from complementary BCD inputs compatible with module DCM-10. Output will drive reed relay coils or lamps or both. Modules can be supplied with suppression required for inductive loads.

True Input: -3 volts to -12 volts at 100 microamps max.

False Input: 0 to -0.3 volts at 75ma max.

True Output: -0.5 volt 200ma with negative supply to 18v

PRICE: \$30.00



REED RELAY MODULE RSM-10

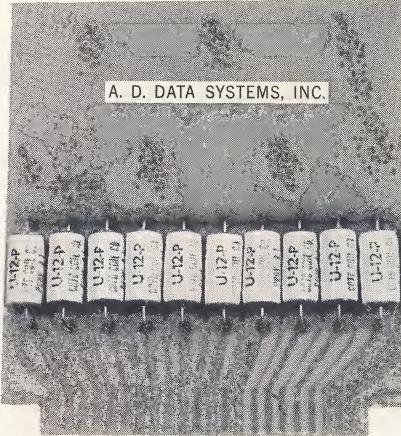
Each module contains 10 reed relays with 10 volt coils for operation from driver Module TDM-10. Uses miniature reeds with low level signal switching characteristics.

Contact Life: at least 20,000,000 operations
at 4 VA
greater than 100,000,000 operations at reduced rating

Operate Time: less than 1 millisecond

Release Time: less than 0.5 millisecond without suppression

PRICE: \$30.00



SYSTEMS CAPABILITY

The modules described can be used in such applications as Automatic Check-out Equipment, Industrial Counters, Timers, Programmers, and in Automation Systems.

By selecting the proper modules, we can manufacture complete systems for your particular application featuring high reliability at low cost. We can also supply instruments to your specifications.

FREQUENCY METER AND COUNTER

Representative of the wide range of frequency meters and counters possible with the Module Series, is the Module CM-10.

Impulse Counter: will count up to 10,000 pulses at 10,000 pulses/sec.

Frequency Meter: will display frequencies from 1 to 10,000cps using a 1 second sampling and 1 second read time.

Display: 4 decade "In Line" readout

External Readout: Logic Levels are available for external readout in either BCD 1, 2, 4, 8 or Decimal.

Accuracy: ± 1 count plus time base accuracy.

PRICE: \$485.00

A. D. DATA SYSTEMS, INC.

322 MAIN STREET

EAST ROCHESTER, N. Y.

PHONE 716 - DU1-2370

ISC

REPRESENTED BY

INSTRUMENT SALES CORPORATIONHARSDALE, N. Y.
SCARSDALE 5-0800

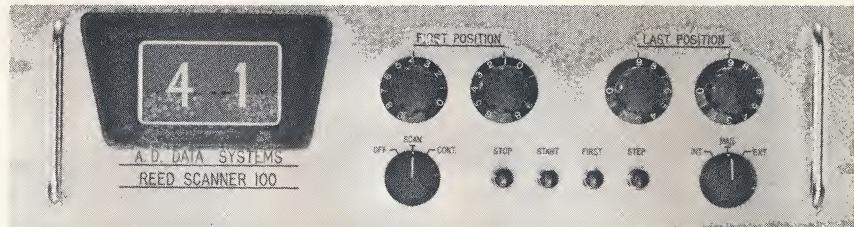
SERIES 100 REED RELAY SCANNER

GNED TO MEET YOUR CUSTOM REQUIREMENTS

NUMBER OF CHANNELS 0-100

POLES PER CHANNEL 2, 3 or 4

SPEED CHANNELS/SEC. 0-300



Using A.D. Data Systems' modular Reed Relay Stepping Switches, an extremely versatile range of Reed Scanners are available as standard, or can be assembled to custom requirements.

The Scanners are 19 inch rack mounted units, $5\frac{1}{4}$ inches high and 17 inches deep. The basic unit contains all the controls for selecting an individual channel, or sequencing through a group of channels either locally from front panel controls or remotely from wiring to a rear panel connector. The unit is also prewired to accept up to 10 of the standard 10 channel reed relay modules, which can be added as required.

LOCAL CONTROLS

FIRST AND LAST POSITION SWITCHES: A two decade projection type readout indicates the channel selected or scanned.

VISUAL READOUT: Rotary Switches permit selection of the group of channels to be scanned by setting the first and last channel of the group.

START: The scanner remains in the standby mode with no reed relays selected or readout lit, until the START button is pushed.

STOP: The scanner will return to standby from any operational mode when the STOP button is pushed.

SCAN MODE SELECTOR: A rotary switch selects the SINGLE or CONTINUOUS scan mode of operation. In SINGLE scan the scanner goes to the Standby mode after the last channel has been scanned. In CONTINUOUS scan the scanner goes to the first position after the last position has been scanned and will continue to recycle until the STOP button is pushed.

DRIVE MODE SELECTOR: A rotary switch selects either the INTERNAL pulse generator, an EXTERNAL pulse generator or the MANUAL pushbutton pulse generator.

STEP PUSHBUTTON: With the drive mode selector in MANUAL position, the scanner will step one channel when the STEP button is pushed.

FIRST CHANNEL PUSHBUTTON: The scanner will go to the channel selected on the FIRST POSITION selector switches when the FIRST channel button is pushed.

INTERNAL PULSE GENERATOR: A solid state pulse generator is supplied with a pulse rate variable from 1 P.P.S. to 300 by a potentiometer on the rear panel.

REMOTE CONTROLS

A 30 PIN CONNECTOR ON THE REAR PANEL HAS ACCESS TO THE FOLLOWING CONTROLS:

START: Momentary ground on input gives Start control.

STOP: Momentary ground on input gives Stop control.

FIRST CHANNEL: Momentary ground on input gives First Channel Control.

EXTERNAL PULSE: The Scanner is stepped externally by applying a momentary ground or positive pulse.

CLOSURE COMPLETE: An output pulse of +6 volts occurring after every channel closure.

END OF SCAN: At the end of a complete scan when the scanner goes into Standby, the output goes from -12 volts to ground.

CHANNEL IDENTIFICATION: Identification of the selected channel is available in B.C.D. 1-2-4-8 code with complementary logic levels of ground and -6 volts. Channel identification can alternatively be supplied in decimal code with logic levels of -12 volts in the OFF state and -1.5 volts in the ON state.

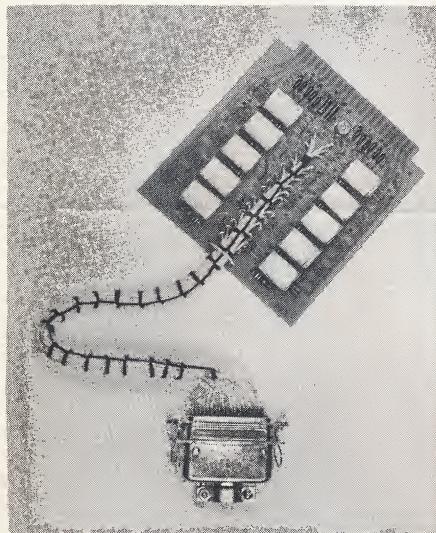
THE FOLLOWING CONTROL IS AVAILABLE AS AN OPTION WHEN REQUIRED.

RANDOM ACCESS: Any channel can be selected from external controls by supplying ground potentials in B.C.D. 1-2-4-8 format and a momentary ground potential for the command function. This means that only 9 control wires are required to select any one of 100 channels, and as the B.C.D. format is compatible with most computers and tape readers the unit is ideal for programmed switching systems.

REED RELAY MODULES

The standard modules have 10 channels of either 2, 3 or 4, Form A reed relays, but special configurations can be supplied including Form B relays, and Form C relays, or combinations. The modules are on printed circuit boards which plug into the control unit, and have the signal inputs wired to connectors mounted on the rear chassis.

If required, the Reed Relay Modules can be mounted in a separate chassis remote from the controls and requires only 21 wires for control of the 100 channels of 4 wires. It is possible therefore to place the reed relay modules close to the signals being scanned, which reduces signal wiring and uses a minimum of control wiring.



REED SPECIFICATIONS

CONTACT MATERIAL	Diffused Gold
CONTACT RESISTANCE	100 Milliohm
BREAKDOWN VOLTAGE	400 Volts
INSULATION RESISTANCE	500,000 Megohms
CONTACT RATING	12 Volt Amperes
SWITCHING CURRENT	0.5 Amp Max.
ACTIVATE TIME	1 Msec. Max.
LIFE EXPECTANCY	100,000,000 operations at full rating.
THERMAL NOISE	Less than 50 Microvolts
TOTAL PATH RESISTANCE	0.1 Ohms

SYSTEM CAPABILITY

A.D. DATA SYSTEMS, INC. will design and manufacture complete systems to your specifications, or will give assistance in the use of the Reed Relay modules or Scanners for your particular requirements. Applications include:

**AUTOMATIC CHECKOUT EQUIPMENT
COMPUTER CONTROLS AND READOUT**

**SWITCHING AND PROGRAMMING
DATA LOGGING AND MONITORING**

PRICING INFORMATION

BASIC CONTROL UNIT - SERIES 100	\$1,000.00
RANDOM ACCESS FEATURE	100.00
10 Channel/2 Wire module - RM 10/2	60.00
10 Channel/3 Wire module - RM 10/3	90.00
10 Channel/4 Wire module - RM 10/4	120.00

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